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PATENT 02/27/03

S/N 09/227,593

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	BESSE ET AL.	Examiner:	C. TOOMER
Serial No.:	09/227,593	Group Art Unit:	1721
Filed:	JANUARY 8, 1999	Docket No.:	163.1300US01
Title:	ANTIMICROBIAL, BEVERAGE COMPATIBLE CONVEYOR LUBRICANT		

CERTIFICATE UNDER 37 CFR 1.8(a):
I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on February 6, 2003.
By: Cheryl A. Boerboom
Name:

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Declaration Under 37 C.F.R. § 1.132

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

1. I, Joseph Kravitz, am an employee of Ecolab Inc., the assignee of the patent application identified above. I have a Ph.D. degree in Organic Chemistry from Wesleyan University. I have 17 years of experience in research and development formulating cleaning products for hair, skin, and hard surfaces. In particular, I worked for 2 years developing conveyor lubricants. I am an inventor on 5 patents and an author of 8 scientific publications.

2. I have read and understood the Office Action mailed August 6, 2002 for the patent application identified above. The Examiner considers that the Person Hei reference discloses conveyor lubricant compositions including water, alkyl and aryl alkoxylated phosphates, and a quaternary ammonium compound. The Person Hei reference does not, however, disclose conveyor lubricant compositions including alkyl alkoxylated phosphate ester together with linear quaternary ammonium antimicrobial agent.

3. I understand that the Examiner has requested additional data establishing that the present lubricant compositions including alkyl alkoxylated phosphate ester together with linear quaternary ammonium antimicrobial agent show unexpected advantages compared to comparable lubricant compositions including benzyl quaternary ammonium antimicrobial compounds.

4. The following experiments were conducted under my supervision and demonstrate such unexpected advantages.

5. Conveyor lubricant compositions were made by methods disclosed in the present patent application. Briefly, the ingredients were combined with mixing. The coefficient of friction was measured generally as described in the present patent application. The ingredients used in the compositions and the results of testing are shown in this Table:

0.0465

Table

0.0218

0.0015

Ingredient / Composition	A	B	1	2	3	4	5	6	7	8
Deionized Water	68.75	68.75	65.25	68.25	66.25	73.25	65.25	68.25	66.25	73.25
Alkyldimethylbenzylammonium chloride, 50%		5.00					10.00	3.00	10.00	3.00
Didecyldimethylammonium chloride, 50%	5.00		10.00	3.00	10.00	3.00				
alkyl phosphate ester	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50
NaOH	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
sec-alcohol ethoxylate			1.00	5.00			1.00	5.00		
Phenol alkoxylate phosphate ester	2.50	2.50								
Tetrasodium EDTA, 40% soln	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Total wt-%	100.00	100	100	100	100	100	100	100	100	100
Coefficient of Friction	0.2216	0.2201								
			0.2018				0.2236			
				0.2094				0.2559		
					0.2157				0.2311	
						0.2759				0.2939

0.018

0.0154

6. Each composition including alkyl alkoxylated phosphate ester together with linear quaternary ammonium antimicrobial agent shows an unexpected and significantly lower coefficient of friction than the corresponding composition including benzyl quaternary ammonium antimicrobial agent. For example, lubricant 1 shows a lower coefficient of friction than lubricant 5, lubricant 2 shows a lower coefficient of friction than lubricant 6, lubricant 3 shows a lower coefficient of friction than lubricant 7, and lubricant 4 shows a lower coefficient of friction than lubricant 8. We did not expect that selection of alkyl alkoxylated phosphate ester together with linear quaternary ammonium antimicrobial agent would exhibit such significant decreases in coefficient of friction.

7. The unexpected and advantageous decrease in coefficient of friction with linear quaternary ammonium antimicrobial agent is observed with and without secondary alcohol ethoxylate in the lubricant.

8. The unexpected and advantageous decrease in coefficient of friction with linear quaternary ammonium antimicrobial agent is observed with and without aryl phosphate ester in the lubricant.

9. In addition, increasing the concentration of linear quaternary ammonium antimicrobial agent decreases the coefficient of friction.

10. The observed decreases in coefficient of friction are significant despite their small absolute amount. The observed decreases in coefficient of friction result in advantages in operating a commercial conveyor of bottles or milk containers. For example, a conveyor handling bottles of soft drink or quart or half gallon milk containers will be able to run significantly faster while keeping the bottles upright and moving. This faster rate with upright bottles lead to significant economics in a bottling or dairy plant.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2/6/03
Date

Joseph Kravitz